



ANNUAL REPORT

— TO THE —

URBAN DISTRICT COUNCIL FOR CHESHUNT, For the Year 1894.

GENTLEMEN,

I have the honour to lay before you the report for the year 1894 on the sanitary condition of the district of Cheshunt. The usual forms supplied by the Local Government Board, duly filled in and giving full detailed information of the incidence of disease, are appended. I have also prepared a table comparing the results of last year's statistics with those of the previous eight years. As the vital statistics of a small population are liable to lead to mistaken conclusions unless embracing a considerable number of years, this table will be of considerable interest, especially to those members of the Council who have not had the opportunity of considering previous reports.

General Sanitary Condition.

The area of your district is 8430 acres.

The population at the time of the last Census (1891) was 9620. The estimated population for the middle of 1894 was 10,326. This gives 1·2 persons per acre as the density of population for the whole of the district, but it is well to remind you that almost the whole population is concentrated on one quarter of the district.

The number of births registered during the year was 325—154 males, 171 females. The birth rate 31·5 per 1000.

The number of deaths registered was 135, to these must be added 12, being deaths occurring amongst persons belonging to Cheshunt in the Edmonton and Enfield Workhouses, and the result (after deducting one death of a person residing elsewhere) gives the corrected number 146, from which is found the death rate of 14·1 per thousand.

The number of deaths of infants under one year of age was 37, giving an infant mortality of 113·3 per 1000 births.

At the opposite extreme of life the deaths at 65 and upwards numbered 31, at the rate of 3 per 1000 of the population.

A.—Table of Deaths classified according to Disease and Ages.

<i>At all ages.</i>	<i>Under One Year.</i>	<i>1 and under 5.</i>	<i>5 and under 15.</i>	<i>15 and under 25.</i>	<i>25 and under 65.</i>	<i>65 and upwards.</i>		<i>Scarlatina.</i>	<i>Diphtheria.</i>	<i>Measles.</i>	<i>Whooping Cough.</i>	<i>Diarrhoea.</i>	<i>Phthisis.</i>	<i>Lung Diseases.</i>	<i>Heart Disease.</i>	<i>All other Diseases.</i>
135	37	24	4	5	34	31	<i>Under 5.</i>	1	3	1	8	1		15		30
							<i>Over 5.</i>		1				14	17	5	35

B.—Table of Population, Births, and New Cases of Disease known.

<i>Population of all ages.</i>		<i>Registered Births.</i>	<i>Under 5</i>	<i>Scarlatina.</i>	<i>Diphtheria.</i>	<i>Typhoid.</i>	<i>Erysipelas.</i>
<i>Census 1891.</i>	<i>Estimated to middle of 1894.</i>						
9620	10,326	325	<i>Over 5</i>	48	20	4	15

Copy of Forms supplied by the Local Government Board.

Meteorology.

The year 1894 may be regarded as a wet year following one of unusual dryness. The rainfall for each month is here given, also the average taken for 10 years previously :—

<i>Month ..</i>	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>April</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
<i>Inches ..</i>	2·73	1·81	1·09	1·85	1·93	1·96	3·33	2·64	·91	3·82	2·80	1·90
<i>Average</i>	1·94	1·38	1·75	1·48	2·37	1·77	2·43	2·41	1·98	2·71	2·38	1·72

TOTAL FOR 1894, 26·77 inches. AVERAGE, 24·55 inches.

[The average fall was thus exceeded by 2·22 inches. More rain than the average quantity fell in every month except March, May and September. An appreciable quantity of rain fell on 174 days during the year.]

The improvement in the drainage of that portion of the Lea Valley contained in your district was clearly shown in November. Owing to the heavy rain the marshes and some of the roads in the lower parts of your district were covered with water of some depth, but on the following day it rapidly diminished and by the third day had disappeared.

Infectious Diseases.

The cases of Infectious Diseases reported to me under the Infectious Diseases (Notification) Act have been the following :

<i>Scarlet Fever.</i>	<i>Diphtheria</i>	<i>Typhoid Fever.</i>	<i>Erysipelas.</i>
54	26	4	17

Of the 54 cases of SCARLET FEVER, 8 were sent to the Isolation Hospital at Enfield. All these recovered. Recurrence of the disease occurred in the house to which one of these cases returned. One death occurred from Scarlet Fever.

Of the 26 cases of DIPHTHERIA, four terminated fatally. No means exist for the isolation of cases of this disease.

TYPHOID FEVER.—FOUR cases of this diseases occurred. For the first case I can find no cause whatever. For the second and third cases probable causes existed in other districts. The last case was that of a man who though living in the parish, spent much time in London and other places, and I could find no cause of infection within your district. All the cases terminated favourably. No means exist for the isolation of cases of Typhoid.

ERYSIPELAS.—SEVENTEEN cases were reported. Two of these were in children under 5 years old. One of these terminated fatally.

WHOOPI-NG COUGH prevailed extensively in the latter part of the year throughout the district. This and the following diseases are not included in the Notification Act, so I can form no estimate of the number of cases which occurred. Eight deaths were ascribed to Whooping Cough.

MEASLES occurred as an epidemic in Waltham Abbey in November, and numerous cases existed in Waltham New Town and Waltham Cross, from which one death resulted.

DIARRHŒA.—Only one death, and that in an infant under five, resulted from this disease, generally so important a factor in the death-rate—especially amongst children.

THE WORK OF THE SANITARY AUTHORITY DURING THE LAST TEN YEARS.

Although my appointment as Medical Officer of Health only dates from March, 1886, I assisted my predecessor in his duties during the previous year, during the latter half of which I acted as his deputy. The period which has elapsed has been one of unusual activity in matters of sanitation, and I think a review of the principal work carried out during that time will be of interest. The present occasion when a change has been made, not only in the name, but also in the mode of election, and in some of the duties of the Local Sanitary Authority appears a favourable opportunity for such a retrospect. Should I appear to dwell too strongly on what I may consider defects in the work carried out, I would beg the Council to believe that it is only that such defects may be recorded to serve as reminders which may prevent their repetition.

Drainage.

Until the year 1886 the only drainage existing was by means of surface drains leading into streams or ditches, or into the soil by means of "dumb wells" or even open pools of sewage. The ditches and streams thus polluted eventually ended in the River Lea, and to prevent this pollution of the river, pressure was brought to bear on the Local Board, who engaging the services of an engineer, undertook a scheme of sewage for the lower and more populous parts of the district. This scheme consisted of a sewage farm just outside the southern boundary of your district, on to which the sewage is pumped from the main sewer extending along the valley as far as Turnford. This is of iron and made in its lower part, of large capacity to act as a receiver. Earthenware intercepting sewers in the main roads and streets collect the

sewage and convey it from several points to the main sewer. Ventilation of the sewers was by open gratings in the roads. Surface water and rain water are not admitted to the sewers.

Disposal of Sewage.

The sewage farm comprised 24 acres. The outfall two miles in length leads into a ditch at Ponders End. The system pursued is a compromise between intermittent downward filtration and broad irrigation. This has been found effective and as a rule gives a very good effluent. When, however, the sewage is first turned on to land which has been cultivated and becomes dry it appears to be inefficiently dealt with and the condition of the effluent is by no means satisfactory.

The fungus which grows in the pipes and effluent sewer has caused a great deal of trouble, and great care is required in straining both at the farm and at the final outfall. The amount of sewage pumped on to the farm varies, but about 400,000 gallons is sometimes pumped in one day.

The sewers in almost the whole of that part of the district drained, run through gravel containing much water and carry a great quantity away—some of them practically run along the bed of old streams.

None of these sewers were tested when laid, and before any sewage was received by them, the amount of water thus taken away was estimated at 24,000 gallons a day. In many instances banks of clay separating gravel basins were pierced by the sewer and drained, and as the subsoil water flows from west to east, a great many wells on the east side of the main road failed.

As soon as houses were drained into the sewers, the gratings in the roads were found to cause a fearful nuisance; the smell rising from some of them was intolerable and it has been found necessary to erect upright ventilators at various points. Where this has been done the effect has been very good, but a few more are required.

Drains.

Regulations for the drainage of houses were drawn up containing the provisions of the Bye-Laws in other words. I was, however, on one or two occasions compelled to draw the attention of the Board to the fact that these Bye-Laws were disregarded. Most especially was this the case where two or more houses were drained into a common sewer leading into the sewer in the road. In such cases the drains were not cut off from the sewer by a trap, nor were they ventilated. I estimated the number of houses thus imperfectly drained at 800. The greater number of the drains and of these auxiliary sewers were not tested. Many were very badly laid, and all that have been examined have been found defective.

In 1894 a sewer has been carried up to Goff's Oak to drain that part of the district, which sadly needed it. On account of the great fall down Claremont Hill, tumbling bays were required.

This sewer has been carefully tested and I do not think it will cause any trouble in the future, but I hope that the errors I have mentioned respecting the house drains will not be repeated.

2,010 houses now drain into the Board's sewers.

The cost of the sewage scheme was £37,000.

The cost of the sewer to Goffs Oak was £1,600.

The total length of the sewer laid is 15 miles, 3 furlongs, 35 yards. To this must be added the length of the auxiliary sewers I have mentioned, of which no estimate can be made, but the Council should remember that for the efficiency of these sewers they are responsible.

Water Supply.

The New River supplied a few houses in Cheshunt Street and Turner's Hill with unfiltered water, but with these few exceptions the water supply of the district was derived almost entirely from shallow wells, and with the primitive methods of sewage disposal I have mentioned, its character can be imagined.

Even this supply began to fail, partly from the drainage of many wells by the new sewers—partly by the heavy pumping at the northern end of the district by the New River Company, and at the southern end by the East London Waterworks Company, but perhaps principally from the decrease of the subsoil water which has been going on for years.

In my annual report for the year 1887 (presented in 1888) I drew the attention of the Board to the serious condition we were coming to, and after deep consideration a scheme was prepared and duly carried out. A trial boring having been made, a well was sunk in the chalk from which the water is pumped to the highest point in your district, into a reservoir, containing one million gallons, from which it is distributed by gravitation. Considerable difficulties have arisen in the engineer's department of which it is not necessary for me to speak, but the advantages of the scheme are many.

The water is drawn from the chalk, and though rather hard, is of great purity. The well being situated so far to the westward of the Lea Valley, is not much influenced by the continued pumping of the great Companies in the valley, nor by drainage from the chalk basin into the Lea—the water in your well standing at a level 13 feet higher than in the deep wells in the valley. From the height of your reservoir the whole of your district can be supplied by gravitation.

By means of a junction with the mains of the East London Company, an alternative supply can be obtained in the event of any serious accident at the well.

Having thus obtained good water the Board wisely decided to give a constant supply as freely and cheaply as possible, and to insist on every person within reach of their mains being provided with it. The work of laying it on to houses commenced in August 1890, and has been going on ever since, and there are now 1,687 houses supplied.

Of the methods of bringing it into houses—more especially into cottages, I should like to say a little. In very many cases

the pipes are laid in such a manner that during frost, unless left running all night, they must freeze and burst. When a pipe containing water at a pressure of 120 pounds to the square inch, bursts, the result is disastrous, and the water is frequently turned off for a few days before repairs are effected. If water be left running all night the waste is enormous, and the heavy pumping required will cause additional work for the engines. The "water-waste-preventing-cisterns" are of a very bad type. They are constantly found out of repair or leaking, and even when in working order, they give no flush, only a trickle into the pan.

The Board did at my suggestion obtain and exhibit a good cistern which meet all requirements, but immediately issued regulations preventing its use. The high pressure at which water is delivered requires very good fittings. Many of the taps at present in use leak, and they constantly require attention. The taps known as "Lord Kelvin's," especially those with the vulcanite washer, are a very great improvement on those recommended by the Board.

The cost of the scheme was £31,880. The repair of the Reservoir is estimated at £2,000 more.

Removal of Refuse.

In the year 1886 the removal of refuse was a duty which the Board practically neglected, though they possessed a night-cart which could be, and occasionally was, used for the removal of the more solid contents of cess-pools and dumb-wells.

Contractors now undertake to remove refuse from every house once a month, and I think this is fairly well done. If your bye-laws were carried out and proper receptacles for dust and refuse were attached to every house, the work would be more conveniently and properly performed. This has been urged so repeatedly during the last two years that I will say no more, but hope the Council will give due attention to this important matter.

Prevention of Infectious Diseases.

On this subject I have, I regret to say, not so much progress to report. Drainage and good water supply have undoubtedly done much for the general health of the district, but the means of combating outbreaks of infectious disease in the district are still wanting.

Isolation.—In 1885, some patients suffering from small pox and diphtheria were, whether rightly or not, sent to the Infirmary as paupers. This is no longer allowed. Arrangements have been made allowing scarlet fever cases to be sent to Enfield, and small pox cases to be sent to Highgate. These hospitals, will however, only receive such cases when they have plenty of room, and delay is always caused by having to obtain assurances on this point before sending them. To send a patient all the way to Highgate, is moreover, rather a serious proceeding. For cases of other infectious diseases we have no means of isolation.

On this matter also so much has been said on previous occasions, that I will not enlarge on the subject further, merely pointing out that it is the duty of the Sanitary authority to provide means for the Isolation of Infectious diseases.

Disinfection.—Disinfectants are freely provided under my directions in all cases of Infectious disease and this is carried out in a satisfactory manner. The disinfection of houses and clothing when the disease is over is in my opinion not satisfactory. One of the Board's workmen takes a stove and burns some sulphur in the house in the presence of steam generated by the heat from his stove. On at least one occasion I found that only one room had been disinfected. I think if the Council undertake to disinfect a house the work should be thoroughly done, and the first step to take to ensure this would be the employment of a man of a somewhat superior class to do the work. To thoroughly disinfect a house requires some hours of a man's time, and with all the duties your surveyor has on his hands, it is impossible for him to give efficient supervision.

Clothing, bedding, etc., are supposed to be disinfected at the same time and by the one process described above, and disinfecting solutions are provided in which most clothing can be immersed.

After the disinfection of a house by sulphur, which is good so far as it goes, it would often be desirable to thoroughly cleanse the room, stripping off the paper, etc., but this is never done, nor can it be efficiently performed throughout an inhabited house.

The Infectious Diseases (Notification) Act of 1889, was adopted by the Board in March 1890. The benefit of this Act will be more apparent when further facilities exist for the isolation of cases of Infectious diseases.

The Infectious Diseases (Prevention) Act, and the third part of the Public Health Act Amendment Act, both of 1890, were accepted in 1891.

In the year 1889 the supervision of the Dairies and Cow-sheds was added to the duties of the Board, and an inspector was appointed.

Comparison of Statistics for the last Nine Years.

Year ..	...	...	...	1886	1887	1888	1889	1890	1891	1892	1893	Avg	1894
Population ...	...	...	...	7823	7972	8222	8480	8738	9620	9886	10,103	10105	10,326
Births ...	...	...	...	267	257	300	291	281	340	275	319	291	325
Deaths ...	...	...	...	118	142	112	90	167	145	130	132	129	135
„ from Infectious Diseases				2	7	12	3	26	10	10	17	11	16
Death rate per 1000 ...				15	18	13	10	19	13	13	13	13.7	14.1
Death rate per 1000 from Infectious Disease ...				2	9	1.5	.35	2.98	1.01	1.01	1.7	1.7	1.5

BYE LAWS.

The only alteration made in the Board's Bye-Laws during the period I am considering was the addition of two Bye-Laws. One to prevent the building of floors below the flood level, the other requiring a certificate from the Board before any new building can be occupied.

The Drainage and Water Supply for your district having been thus provided, it now only remains for the District Council to make the best use of the means they possess, and thus ensure the sound sanitation of the greater and most populous parts of their district. Periodic inspection should be made not only of the sewers in the road, but also the auxiliary sewers, and of the house drains. Experience has shewn that some of the sewers require flushing to keep them clear, and some of the auxiliary sewers require it more than those in the road. Where flushing tanks are provided, means should also exist for supplying them with water. As defective drains are discovered they should be promptly remedied.

The drainage of Hammond Street and Appleby Street is in urgent need of your attention. No large scheme of sewage is required. The enforcement of the provisions of your ordinary bye-laws, and the abatement of nuisances by the usual methods will suffice.

I would also ask you to seriously consider the question of Isolation of cases of Infectious diseases, and the disinfection of houses, bedding, clothing, &c.

As a Committee has been appointed to consider whether revision of the Bye-Laws is required, I would remind you that only one form of ashbin is allowed by your old regulations. This is of brick, and though suitable for some parts of your district, could now conveniently be replaced in others by iron cans, which can be carried out and emptied into the dust carts. Your attention has already been drawn to the "water waste preventing

cisterns," and you will doubtless formulate some new regulations which will ensure more effective arrangements.

Power is given by the Public Health Act Amendment Act, to frame a Bye-law preventing persons from so altering Buildings as to make them offend against the Bye-laws. I hope the Council will take advantage of this power and frame such a Bye-law, which is much needed.

I am, Gentlemen,

Your Obedient Servant,

WALTER F. CLARK,

Medical Officer of Health.



